

Appendix D:

PROGRAMMATIC and ENVIRONMENTAL RESULTS from GRANTS

Purpose

This appendix provides additional information and guidance for use by EPA staff and grant recipients in understanding and implementing EPA Order 5700.7 which addresses programmatic and environmental results from Agency grant assistance. It does not present new requirements. More details on implementing the Order, including the administrative requirements that EPA project officers must fulfill, may be found at: <http://www.epa.gov/ogd/grants/award/5700.7.pdf>.

Introduction

The mission of EPA is to protect human health and the environment. EPA, to help carry out its mission, awards approximately one-half of its budget annually¹ in the form of assistance agreements to State, Tribal, local government, educational institution, and non-profit partners. The Agency is accountable to the public for the use of these funds and is responsible for assuring that they are used in an appropriate, productive, and effective manner. Specifically, every assistance award should demonstrate programmatic and, where practicable, environmental results that contribute to the achievement of the Agency's environmental and public health mission. This is critical not only public accountability but also for sound program management.

EPA's Order on Environmental Results

Effective January 1, 2005, EPA issued its "Order 5700.7: Environmental Results Under Assistance Agreements." The Order requires that EPA, to the maximum extent practicable: (1) link every proposed assistance agreement to the Agency's Strategic Plan architecture developed pursuant to the Government Performance and Results Act; (2) ensure that results (outputs and outcomes) are appropriately identified throughout the grant process (from competitive funding solicitations to work plans to performance reporting); and (3) consider how results from the completed assistance agreements, whether from a program or a project, contribute to the Agency's goals and objectives. Accordingly, recipients of assistance must provide work plans and report progress in a manner that enables EPA to meet the requirements of the Order. This guidance should be used in concert with the Order.

Organization

The appendix focuses on the contribution that *grant financial assistance* plays in helping achieve EPA's Goal 1 - Clean Air and Climate Change. It does not cover the full range of activities and performance measures that the Agency employs to meet that goal - namely the significant contribution of *federal control measures* and *technical assistance* provided by EPA to its co-implementors nor does it cover the impacts of discretionary actions on the part of the regulated sector. For a more complete picture of the Agency's strategic approach to, and progress in, achieving clean air, the reader should consult OAR's portion of the Agency's Strategic Plan, the Annual Performance Plan (Annual Budget), and EPA's Annual Report on Progress. Links to these documents are listed below.²

The appendix: (a) outlines the relationship of grants and their results to the Agency's larger

¹ In the Air and Radiation program - over 41% in FY 2005.

² See - <http://www.epa.gov/ocfo/plan/plan.htm>, <http://www.epa.gov/ocfo/budget/index.htm>, and <http://www.epa.gov/ocfo/finstatement/apr.htm>

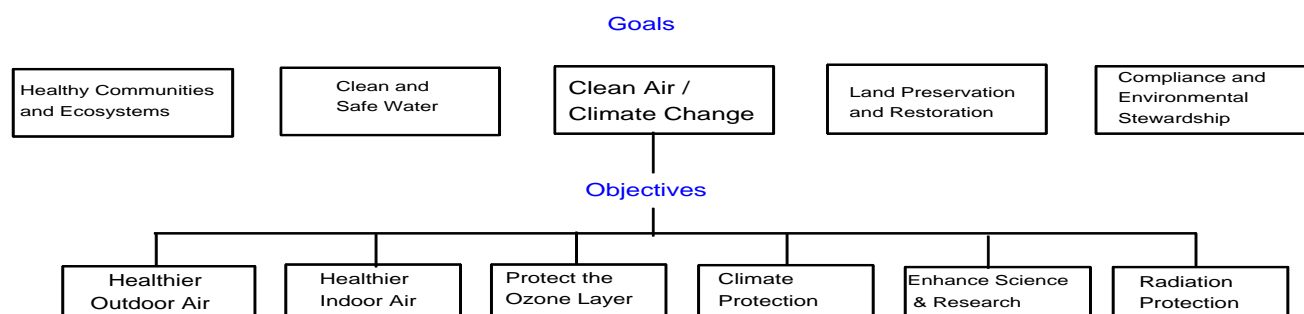
structure and process for environmental management; (b) summarizes the Order’s relationship to existing requirements on grant performance and reporting; (c) discusses key terms and concepts; and (d) identifies key considerations in relating grant results to specific environmental outcomes. The guidance also suggests possible areas for further inquiry and analysis to improve, and better correlate, measures of grant performance to overall programmatic and environmental progress.

Understanding EPA’s Strategic Architecture

EPA pursues its public health and environmental mission through five long-term goals. These long term goals form the basis for the Agency’s Strategic Plan and are further defined by multi-year objectives which are framed by incremental targets that contribute to overall goal attainment. Most objectives are further defined by subobjectives – strategies and/or programs with anticipated results that will lead to meeting Agency objectives. The subobjectives in turn may be further broken down into strategic targets which are quantifiable measures used to demonstrate progress towards achieving subobjectives. OAR’s primary involvement, and that of its co-regulators, is in Goal 1 - Clean Air and Climate Change. Table 1 outlines the Clean Air goal and its six objectives.

Table 1.

EPA & OAR's Long-Term Strategic Architecture: Goals/Objectives



OAR’s Approach to Implementing the Clean Air Goal: Linkage to Grants

OAR’s portion of the Agency’s Strategic Plan lays out a long-term blueprint for achievement of the Clean Air and Global Climate Change goal. Objectives are translated into strategies and end-outcomes in the plan that, in turn, form the basis for the intermediate and near term priorities, programs, activities and measures of progress that appear in the OAR’s annual plan (i.e., budget submission) and complementary annual OAR National Program and Grant Guidance. The annual plan includes annual performance goals and measures - some of which can reflect an increment of the long term environmental progress to be achieved. The program guidance provides more details on specific actions to be taken over a three-year window (e.g., FY 2007-2009) and is updated on an annual basis with emphasis on the immediate year. The guidance covers not only what EPA’s role and responsibilities are (i.e., federal measures, technical assistance) but also what the priorities and expected accomplishments are for recipients of OAR grant assistance.

The national program guidance may not specify all eligible grant activity and its expected accomplishments. The focus of the national guidance is largely on the efforts of EPA and state, local and tribal governments. However, all grant-eligible work not specified in the national guidance must still be linked as a contributing element to the Agency’s strategic architecture. This includes, for example, the numerous project-specific or demonstration grants the Agency awards through competitive solicitations. The Agency will work with grantees to ensure that all work plans contain the expected accomplishments

and reportable results, and to the extent practicable, expected environmental outcomes, outlined either in national program guidance or via the competitive solicitation.

Actual accomplishments are to be reported via periodic progress reports and/or to specific information systems. For continuing grant programs, the most significant accomplishments to be achieved and tracked through the year are included in an ‘annual commitments’ section of the national guidance. The accomplishments can include both outputs - such as key program milestones that must be achieved during the year in order for subsequent air quality improvements to occur (e.g., collection, quality assurance and submission of air quality data; development of state implementation plan components, etc.) - and outcomes such as the programmatic outcome of a formal redesignation of an area to clean air status for a criteria air pollutant after 3 years of monitored clean air. The latter result reflects the cumulative environmental gains being registered in *that* year as a result of Agency and grant resource investments in *prior* years.

Table 2 shows the primary ‘operational’ components of the Agency’s framework for strategic management from the desired end-state of the longer term clean air goal to the reporting of cumulative and current year measures of progress. References to ‘grants’ include not only continuing program grants but grants awarded on a competitive basis.

Table 2. EPA’s Framework for Strategic Management and Results

Linkage of Grant-Funded Activities to the Strategic Architecture and Measures of Performance		
Planning & Management Component	Elements	Time frame
Strategic Plan	Goals Objectives Sub-objectives Strategic Targets	Long-term, multi-year
Annual Plan (Budget) Submission	Annual performance goals Annual performance measures	Annual
National Program & Grant Guidance Specific Grant Solicitations	Annual activities and milestones Annual grant priorities Related grant programs and authorities Annual outputs & outcomes (i.e., annual commitments)	Annual (though a multi-year time frame may be provided)
Progress Reporting & Assessment	Program-specific & grant progress reporting data bases / information systems / templates HQ/RO Annual Commitments System Program-specific progress reports EPA Annual Report EPA Report on the Environment	Continuing, annual or ad hoc basis

Table 3 provides examples of the performance aspects of each major component and their relationship. In this case, attainment of the national ambient air quality standard for ozone is shown.

**Table 3. Performance Aspects of the Ozone NAAQS
Portion of the Clean Air Goal**

Clean Air Goal: Protect and improve the air so it is healthy to breathe and risks to human health and the environment are reduced. Reduce greenhouse gas intensity by enhancing partnerships with businesses and other sectors.		
Strategic Component	Time Frame	Commitment or Expected Result
Objective	Long-Term	- Through 2011, working with partners, protect human health and the environment by attaining and maintaining health-based air quality standards and reducing risk from air toxics.
Sub-objective	Long-Term	- Reduce the population-weighted ambient concentration of ozone.
Strategic Target	Long-Term	- By 2015, reduce the population-weighted ambient concentration of ozone in all monitored counties by 14% from 2003 baseline.
Annual Performance Goal / Measure (PART)	Annual	- The percent reduction in population-weighted 8-hour ambient ozone concentrations in all monitored counties will increase by 1% relative to 2006 for a cumulative increase of 6% relative to 2003 (i.e., based on air quality status for three years of data collected as of 2003). - Achieve cumulative 21% reduction in # of days with AQI values over 100 weighted, by population and AQI value).
Program Commitments (Selected)	Annual	- Recipients submit CAA 110(a)(1) maintenance SIPs for required 8-hr.ozone attainment areas. [Maintain progress achieved.] - Recipients submit approvable SIPs to attain the 8-hour ozone NAAQS. [Laying groundwork for future progress.] - Recipients submit reasonable further progress SIPs for moderate & higher Subpart 2 and for Subpart 1 areas requesting 5-yr. extension of attainment date. [Laying groundwork for future progress.] - All eligible Early Action Compact areas submit the required progress reports showing continued implementation of control measures, progress in emission reductions and improvement in air quality. [Assess current year progress.] - Recipients submit required emission inventories required by CERR. - Recipients operate & maintain their ozone ambient monitoring networks & submit QA-assured data into EPA's Air Quality System consistent w/ 40CFR58 data reporting requirements. - Recipients review 8-hr.ozone AQ reports & take appropriate action for new violating areas. - Recipients submit re-designation requests for areas with 3 yrs. of clean AQ data.

The Order's Relationship to Existing Grant Performance Requirements

The Environmental Results Order complements existing performance and reporting requirements for Agency grants and cooperative agreements. These requirements are found in 40 CFR 30 (for academic and other non-profit organizations) and in 40 CFR 31 and 40 CFR 35 (for State, local and Tribal governments).

The Order complements these by: (a) requiring a more explicit linkage between the grant purpose and the Agency's strategic architecture developed pursuant to the Government Performance and Results

Act; and (b) emphasizing the importance of not only demonstrating the grant results through outputs (i.e., products) but also through outcomes (i.e., programmatic and/or environmental impacts of the funded activity).

In reporting performance, under 40 CFR § 30.51(d)³, a recipient is required to: (a) compare actual accomplishments with the anticipated outputs and outcomes specified in the assistance agreement work plan; (b) if not met, explain why; and (c) provide other pertinent information including, if appropriate, analysis and explanation of costs. A financial and performance report is also required (40 CFR 30.71) for grant close-out. Reporting should occur no more frequently than quarterly and no less frequently than annually.

The same requirements above also apply to recipients under 40 CFR §31.40⁴ (i.e., for State, Local or Tribal recipients other than those receiving State or Tribal continuing program grants under 40 CFR 35, Subparts A and B) and are found in 40 CFR §31.40 and §31.50, respectively.

For State, local and Tribal entities receiving assistance under 40 CFR 35 (i.e., for continuing program and performance partnership grants)⁵, in addition to the requirements of 40 CFR §31.40 and §31.50, more specific performance and reporting provisions apply. Specifically, 40 CFR 35.107 describes the requirements for: an approvable work plan including consistency with, and reconciliation of, the applicant's goals, objectives, priorities and performance measures with those of the Agency; work plan components and commitments with a time frame for accomplishment; work plan consistency with applicable federal statutes, regulations, delegations, etc.; specification of a performance evaluation process and reporting schedule; and clarification of recipient and Agency responsibilities. 40 CFR §35.115 provides more details on joint Agency-recipient evaluation process including the requirement for interim and final progress reporting.

The Order's Relationship to Grant Work Plan Template

In response to OMB's review of major EPA State grant programs (including PPG agreements), the Agency has developed a template for use by States in preparing and submitting their grant work plans for categorical grants and PPGs starting in FY 2007. Essentially the template requires that states provide a clearer linkage of their grant-funded efforts to EPA's strategic long and short term goals and highlight relevant aspects of their annual performance and results. The template should facilitate meaningful comparison of performance across states and between a state's past and planned accomplishments.

In implementing the template OAR's focus is on outcome measures. Accordingly the template is a subset of information from the Agency's broader suite of measures and commitments contained in its Annual Commitments System. Information in the ACS provides the basis for the negotiation of continuing program grant agreements with States, locals and tribes. At this time the template only applies to state categorical and performance partnership grant recipients. The template is consistent with the prior actions taken by EPA to bolster the effective management of grants and ensure results,

³ An example of the type of grant involved might be a non-profit organization or a local government agency that has received non-STAG §103 authority assistance to develop and verify a model for measuring the greenhouse gas reduction potential of various local control measures.

⁴ An example grant in this area would be a Tribe that has received STAG funds under §103 authority for an initial baseline assessment and monitoring of its air quality in order to help determine if any air pollution threats exist that would require subsequent preventive or mitigative action.

⁵ An example would be a §105 STAG continuing program grant to a State air pollution control agency which would focus on the annual activities it needs to accomplish as part of a multi-year plan to attain new clean air status standards for ozone and PM_{2.5} as well as supporting activities maintaining the NAAQS for other criteria pollutants affecting its population.

specifically EPA's Results Order. The Order applies to *all Agency grants* not just grants to States – and it covers all phases of the grants process from solicitation to application to reporting to evaluation.

Understanding 'Results' Terminology

The Order embraces the definition of program or project results found in 40 CFR §35.102. That definition recognizes various types of results - outputs and outcomes. These terms apply to, and are consistent with, all forms of grants whether they be project, continuing program or performance partnership grants. For example, requirements for performance partnership grants also reference the flexibility a State or Tribe has in defining its own work plan components. However, these components must include work plan commitments which are further defined as outputs and outcomes (see 40 CFR §35.102, §35.107 and §35.137).

The term “output” means an environmentally-related activity, effort, and/or associated work products related to an environmental goal or objective, that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative but must be measurable during an assistance agreement funding period. They are by nature programmatic. [Output examples would be: for a CAA training project grant - the number of students trained on an air toxics risk characterization and assessment course; for a continuing program grant - the number of maximum achievable control technology (MACT) air toxics standards promulgated.]

The term “outcome” means the result, effect or consequence that will occur from carrying out an environmental program or activity that is related to an environmental or programmatic goal or objective. Outcomes may be environmental, behavioral, health-related or programmatic in nature, must be quantitative, and may not necessarily be achievable within an assistance agreement funding period.

There are two major types of outcomes - end outcomes and intermediate outcomes. Intermediate outcomes can reasonably be expected to lead to the desired result or ultimate end outcome of a project or program. [For example, for an air pollution program assistance agreement, retrofitting older school buses with more efficient clean engine technology will lead to reduced emissions over uncontrolled engines. This programmatic result constitutes an intermediate outcome, which in turn, when combined with the impacts from other control strategies, should contribute to improved air quality, which should help reduce health risks to school children, and result in reduced hospital visits, and, ultimately, to reduced mortality from lung cancer.]

Given that the end outcomes of an assistance agreement may not occur until after the assistance agreement funding period, intermediate outcomes realized during the funding period are an important way to measure interim progress in achieving end outcomes. The relationship of outputs to intermediate and end outcomes is shown in the simple logic model shown in Table 4. A logic model is a diagram and text that describes the logical or causal relationships among project or program goals, activities, and the expected results of those activities. The model below also reflects the full range, or hierarchy, of indicators from: actions by regulators (grants), actions by society (retrofits), changes in stressors (emissions), changes in ambient conditions (air quality), and changes in exposure (illnesses) and human health (mortality).

Table 4. A Simple Logic Model for Clean School Bus Grants

Inputs +	Activities +	Outputs +	Intermediate Outcomes +	End Outcomes
-Improved engine & fuel technologies	- Grants to school districts	- Number of older buses retrofitted - Number of new clean replacement buses - Number of buses using low-sulfur fuel	- Reduced Emissions - Number of students riding in cleaner buses	- Improved Air Quality - Reduced Hospital Visits - Reduced Mortality from Lung Cancer


Varying Grant Purposes and Results: Why Not All Grants Will Have an ‘Environmental’ Result

A complex, multi-year environmental strategy like attaining and maintaining clean air will necessarily involve several stages of activity and numerous strategic components including grant assistance to partners. For example, problem definition could include research to determine pollutant impacts on human health, source inventory, and initial air quality assessment. Raising awareness of the problem and actions necessary to address it may involve education and outreach or demonstration projects. Developing infrastructure may involve training and upgrade of information management capability. Plan development would involve governmental and public input, air quality modeling, control measure analysis and adoption. Implementation would involve carrying out mitigation or prevention measures, ambient and source monitoring, compliance and enforcement, and maintenance activities. Assessment of progress would involve monitoring, reporting, and evaluation.

EPA works in partnership with other levels of government, the private sector and the public to carry out these strategic elements. Doing so means that a large percentage of Agency *air* resources are targeted to some form of grant assistance supporting a wide variety of activities and purposes to different types of recipients. Varying grant purposes means varying measures of progress associated with each grant.

Accordingly, while all grants should ultimately contribute to the achievement of the environmental goal, not all will generate environmental impacts. Many will fund enabling or supporting elements over the course of attaining the environmental goal. Understanding the purpose and the timing of the grant activity in the overall strategy to solve the environmental problem can help explain the relevance of its measure of performance particularly if that measure is not in the form of an environmental result. However, all grants should be relatable to the ultimate environmental goal or desired end-state.

Mapping the role of grants in throughout the implementation of an environmental strategy can help illustrate the purpose and relationship of grants to the overall achievement of the environmental goal. To illustrate, Table 5 provides a *hypothetical* mapping of the programmatic elements an environmental strategy listing the *hypothetical* grants associated with these elements, their purposes, measures of performance, expected accomplishments, and the results achieved.

Table 5. Hypothetical Examples of Different Grant Purposes and Results in an Environmental Strategy (Example: Fine Particulates. For illustrative purposes only. Actual activities that would produce the results are not listed.)				
Function	Grant Purpose	Measure	Target	Result
Res 	- Determine relationship between pollutant exposure and human health effects.	- Rate of cardiac blood flow given varying air particle exposure per sensitive population group.	- Particle size at what minimum exposure causes deleterious change in blood flow for sensitive subgroups.	- Deleterious blood flow rates are determined at 1 hr. exposure at 2.5 micrograms./ m ³ .
Initial Environmental Assessment	- Deploy Monitoring Network. - Determine air quality status.	- % Deployment of monitors within 6 months. - Timely, quality-assured ambient air quality data reported per site.	- 90% of targeted areas in 6 months. - 3 yrs. of quality-assured ambient air quality data reported.	- 95% deployment on-time with all monitors delivering reliable data. - Area is designated as either non-attainment or attainment.
Outreach	- Increase public awareness of sources and solutions of PM pollution.	- Number of public service announcements. - Degree of public understanding from interactive poll.	- Secure prime media spots with 25% market penetration. - 50% of test group adopts green practices.	- 50% change in Test Group's knowledge & preventive behavior.
Capacity Development	- Enhance affected tribal agencies' ability to assess and address PM pollution.	- Number of affected Tribes establishing PM program management expertise to do plan.	- 30 Tribes provide approvable PM attainment plan.	- 22 Tribes with approved PM attainment plan.
Demonstration or Special Project	- Encourage voluntary reductions of particulate matter before regulation	- Number of trucks that fleet operators install diesel traps on. - Average emissions per truck mile.	- Install traps on 5,000 vehicles in test group. - Reduce emissions by 80% from baseline level.	- Measured or modeled before/ after emission reductions from test group result in 92% decrease in their PM emissions (lbs./ or tons/yr.)
Program Implementation	- Develop and implement plan to attain national ambient air quality standard.	- Plan elements completed (emission inventories, model results, control strategies, monitoring, data reported). - Number of persons living in areas meeting PM-2.5 clean air standard.	- Each affected areas has an approvable plan submitted by 2007. - Attainment by 2013 for 3 million persons.	- In 8 years, 100% of population (3M persons) live in areas meeting PM-2.5 clean air standard.
Information Management	- Improve quality electronic data flow for major data systems addressing PM-2.5. emissions.	- Number of States that are using Agency's electronic data exchange system.	- 100% of states participate in Agency electronic data exchange system.	- 80% of states provide quality-assured data at a 50% greater cost efficiency.
Enforcement & Compliance	- Improve regulated community's understanding of PM compliance requirements.	- Number of targeted Small Business Compliance workshops on fine particle pollution reduction.	- 50% increase in small business initial PM compliance rate. - 15% decrease in allowable emissions.	- 65% increase in small business PM initial compliance rate. - 25% decrease in allowable emissions.
Congressional Earmark	- Academic research center assesses interaction of PM and visibility in proposed new national park in State X.	- Modeled PM pollution impacts of likely alternative growth scenarios in, and surrounding, the proposed park.	- Develop and analyze pollution impacts of 3 possible growth scenarios.	- Smart growth strategies and policies are recommended to EPA and State Growth Commission.

Continuing Program Versus Project Grants

It is important to note that not all the OAR programs and activities that employ grants to produce results are captured in the National Program and Grant Guidance or in the Annual Commitments System (ACS). These documents tend to focus on continuing grant program activity carried out by State, local and Tribal governments. OAR awards numerous individual project grants to eligible state, local, Tribal and other non-profit entities through competitive solicitation. The solicitations articulate the individual outputs and outcomes expected from these grants. This information is not typically captured in the national guidance or the Agency's established systems that report performance and results. Table 6 summarizes example outputs and outcomes from some of the more recent and significant competitive and project grants. The program guidance or solicitation for these types of grants should articulate the type of performance measures and results expected of the recipient.

Table 6. Example Outputs and Outcomes from Selected Project Grants

Grant Program or Project	Expected Outputs	Expected Outcomes
Clean School Bus USA	<ul style="list-style-type: none"> - 4,000 school buses retrofitted, replaced or retooled for cleaner fuels - 60 new idling reduction policies in place or existing policies renewed 	<ul style="list-style-type: none"> - Reduced exposure of 500,000 children riding on cleaner buses each day -Reduced emissions of PM-2.5, NOx, SOx, & air toxics
National Clean Diesel Demonstration	<ul style="list-style-type: none"> - Number of vehicles with: retrofits, engines replaced, engines upgraded, replaced w/ new units, using cleaner fuels 	<ul style="list-style-type: none"> - Estimated percentage reduction in lbs. of emissions of PM-2.5, NOx, HC & CO per vehicle per remaining vehicle life
Truck Engine Idle Technology Demonstration	<ul style="list-style-type: none"> - Truck engine performance data - Driver and owner reactions and opinions 	<ul style="list-style-type: none"> - Identification of idle reduction technologies on HD trucks that most effectively reduce emissions, fuel consumption & protect driver comfort
Tribal Training and Technical Assistance	<ul style="list-style-type: none"> -Train minimum of 300 Tribal professionals per year over life of the training agreement 	<ul style="list-style-type: none"> - Stimulate and encourage development of Tribal air programs that assess and address AQ in Indian country (increased # of Tribal AQ programs)
Tribal Education and Outreach	<ul style="list-style-type: none"> - Train minimum of 300 Tribal students per year over the life of the training agreement 	<ul style="list-style-type: none"> - Tribal student interest in AQ career in Indian country is stimulated and encouraged
Tribal Community-Scale Air Toxics Reductions	<ul style="list-style-type: none"> - Education, training, & outreach on application of toxic air pollutants risk reduction methods comparable to, or consistent with, EPA's Smoke-free Home Pledge Campaign, the IAQ Tools for Schools Program, or the Asthma Education & Outreach Campaign 	<ul style="list-style-type: none"> - Increase in # of Tribal members adopting indoor toxic air pollutant risk reduction methods for their homes
Radon Communication, Education, Outreach and Risk Reduction Projects	<ul style="list-style-type: none"> - # of radon tests caused to be conducted in high radon potential areas including low income communities 	<ul style="list-style-type: none"> - # of homes and/or schools mitigated for elevated levels of radon in high radon potential areas including low income communities
Training, Outreach and Awareness of ETS Effects on Children	<ul style="list-style-type: none"> - Outreach to new and/or soon-to-be parents of infants about dangers of ETS exposure to children 	<ul style="list-style-type: none"> - # of adults, living w/ children, who commit not to smoke in their homes & vehicles
Market Based Approaches to Lower GHG through Homes/ Buildings Energy Efficiency	<ul style="list-style-type: none"> - Identification of constituencies, market barriers, and incentive strategies, to promote energy efficient technologies 	<ul style="list-style-type: none"> - Estimated impact of initiative on reducing energy consumption and carbon emissions
Market Based Approaches to Lower Emissions through Improved GHG & Energy program Management	<ul style="list-style-type: none"> - Training & technical support for minimum of 700 industry & state agency partners 	<ul style="list-style-type: none"> - Post-training and technical support activities that reduce emissions through improved GHG & energy management including renewables.

Linking Grants to Environmental Results: Additional Observations and Suggestions

Hopefully this guidance is helpful in understanding the relationship of grant programs and individual grants to the Agency's strategic architecture (and to a lesser extent, their contribution to actual improvements in air quality). However, the examples used also point out current inconsistencies in how we express and correlate grant and other program measures of performance. There are also numerous data gaps that inhibit our ability to better draw the relationship between the contribution of a grant-funded activity and achievement of the environmental goal.

Examination of OAR's strategic architecture and system for performance management suggests possible areas for further inquiry and analysis to improve, and better correlate, measures of grant performance to overall programmatic and environmental progress, particularly for continuing program grants. Specifically, (a) attaining clean air requires significant lead time to install a programmatic infrastructure and, as a result, expressions of progress in initial years are invariably programmatic in nature; (b) because our environmental performance measures are structured in terms of long term results, there are few intermediate measures of environmental progress that can be linked to annual program and grant investments; (c) grant investments in continuing programs like NAAQS typically contribute to environmental results that are not realized for several years hence; and (d) environmental results occurring in the year of grant award usually reflect the cumulative impact of prior year grant and other program investments.

Currently OAR, its program offices and the Regions, develop or refine performance measures on an annual basis. One suggestion is to develop and articulate program and grant-related performance measures on a strategic basis as part of the strategic planning process. This would mean that the implementing offices develop, in advance and to the maximum extent practicable, maps or blueprints of the program strategies contributing to goal achievement over a multi-year period, showing the significant stages of activity, and the related performance measures that will be used at each stage, to express their programmatic and/or environmental progress towards the environmental goal.

As noted, one challenge is the lack of intermediate indicators of environmental progress towards goal achievement. For example, achievement of a national ambient air quality standard might not occur until 2013. Its measure of progress would be an end-of-the-time-line measure - i.e., the number of people breathing clean air in areas attaining the NAAQS by 2013. There are some potentially enlightening intermediate measures of environmental progress that are available or can be developed. Examples would be: to track and report the annual trend in an area's air quality exceedances, or the change in its number of clean air days, or the change in estimated or reported emissions from an emissions inventory updated or estimated on an annual basis.

Another approach could be to make the State Implementation Plans, which the grant work plans are helping to implement, more transparent with regards to the area's calculation of its required emission reductions, the expected emissions reduction contributions of the control measures adopted as part of the plan, and the projection of incremental progress towards the eventual attainment date. If actual control measure performance could not be verified, then implementation of the control measures could be verified and correlated to measured air quality over the successive grant periods.

One key question is how such progress information can meaningfully be related to annual or cumulative grant investments both in terms of: (a) accurately attributing an appropriate portion of the environmental gain achieved to the grant funds invested, and (b) accurately valuing the grant investment. It is difficult though not impossible to differentiate the environmental contribution of recipient funded measures from the impacts of federal measures and private sector actions. However, if the grant investment is correlated only to a small portion of the marginal gain, doing so runs the risk of underestimating the overall value of the investment since the grant supports the underlying infrastructure of the continuing air program including maintenance and prevention activities. Accordingly, more effort

needs to be devoted to determining how to distinguish the impacts of grant-funded activities versus federal and non-grant-related activity on improvements in air quality.

Other observations: (a) project grants, given well-written solicitations, have demonstrated the potential to produce more immediate, more easily definable cause-effect relationships and measurements (or estimations) of changes in stressors to air quality (e.g., emissions) than complex, continuing program grants; (b) more thought needs to be given to designing more enlightening ‘outcome’ measures of performance for outreach and education grants; and (c) additional training and continued education on performance measurement is necessary for air and radiation program and grant personnel particularly on appropriate grant outputs and outcomes.

These latter areas underscore the need for continuous refinement and improvement in our approach to grant performance measurement and management. OAR is doing several things in this area:

- We will continue to examine and refine our grant-related performance and efficiency measures including those identified as part of OMB’s annual program assessment rating tool (PART) review.
- We have refined the Tribal Menu of Options document to better correlate the essential elements of sound Tribal outdoor and indoor air project and continuing program grant efforts with OAR’s strategic architecture and as part of a process for continuous improvement of its measures of programmatic and environmental performance.
- We will continue to participate in Agency-wide training of EPA project officers and other staff on implementation of the Environmental Results Order and we will continue to update and refine the environmental results component of our overall grants training for OAR and regional air grant project officers.
- We are participating in the agency-wide workgroup examining what overall grant results information is collected, how it is used, and whether it needs to be better integrated with other aspects of the agency’s ongoing strategic planning and management processes.
- We have begun a series of conferences/workshops involving the OAR Program Offices, other EPA offices and Federal Agencies, EPA Regional Offices, and State, local and Tribal representatives, to review our performance measures and environmental indicators to assess how well they align with our strategic goals and targets.
- Pursuant to the findings of the National Research Council’s examination of the Air Quality Management Process, and the subsequent recommendations of the Clean Air Act Advisory Committee, we will be investigating approaches to provide more immediate and attributive ways to measure clean air progress including weight of evidence demonstrations (i.e., more reliance on measured rather than on modeled assumptions of performance) and more rigorous tracking of the ongoing progress of contributing program strategies (e.g., the impact of NO_x reduction programs in the formation of ozone). These approaches can facilitate the linking of the programs and measures supported by grants to more immediate indications of air quality status.

Feedback

OAR is interested in hearing how this guidance document can be improved to aid HQ and Regional Office air and radiation program and grants staff in carrying out the Environmental Results Order. We are also interested in obtaining feedback on how to improve our grant measures of performance in general. Contact William Houck at 202-564-1349, with comments or for more information.